User Guide

Twisted Pair

MTP T 15HD A

Architectural Twisted Pair Transmitters
MTP T 15HD WM,
MTP T 15HD A D,
MTP T 15HD A AAP

Extron Electronics
INTERFACING, SWITCHING AND CONTROL

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08 12

Safety Instructions • English

This symbol is intended to alert the user of important operating and maintenance (servicing) instructions in the literature provided with the equipment.

This symbol is intended to alert the user of the presence of uninsulated dangerous voltage within the product's enclosure that may present a risk of electric shock.

Caution

Read Instructions • Read and understand all safety and operating instructions before using the equipment.

Retain Instructions • The safety instructions should be kept for future reference.

Follow Warnings • Follow all warnings and instructions marked on the equipment or in the user information.

Avoid Attachments • Do not use tools or attachments that are not recommended by the equipment manufacturer because they may be hazardous.

Warning

Power sources • This equipment should be operated only from the power source indicated on the product. This equipment is intended to be used with a main power system with a grounded (neutral) conductor. The third (grounding) pin is a safety feature, do not attempt to bypass or disable it.

Power disconnection • To remove power from the equipment safely, remove all power cords from the rear of the equipment, or the desktop power module (if detachable), or from the power source receptacle (wall plug).

Power cord protection • Power cords should be routed so that they are not likely to be stepped on or pinched by items placed upon or against them.

Servicing • Refer all servicing to qualified service personnel. There are no user-serviceable parts inside. To prevent the risk of shock, do not attempt to service this equipment yourself because opening or removing covers may expose you to dangerous voltage or other hazards.

Slots and openings • If the equipment has slots or holes in the enclosure, these are provided to prevent overheating of sensitive components inside. These openings must never be blocked by other objects.

Consignes de Sécurité • Français

Ce symbole sert à avertir l'utilisateur que la documentation fournie avec le matériel contient des instructions importantes concernant l'exploitation et la maintenance (réparation).

Ce symbole sert à avertir l'utilisateur de la présence dans le boîtier de l'appareil de tensions dangereuses non isolées posant des risques d'électrocution.

Attention

Lire les instructions• Prendre connaissance de toutes les consignes de sécurité et d'exploitation avant d'utiliser le matériel.

Conserver les instructions• Ranger les consignes de sécurité afin de pouvoir les consulter à l'avenir.

Respecter les avertissements • Observer tous les avertissements et consignes marqués sur le matériel ou présentés dans la documentation utilisateur.

Eviter les pièces de fixation • Ne pas utiliser de pièces de fixation ni d'outils non recommandés par le fabricant du matériel car cela risquerait de poser certains dangers.

Avertissement

Alimentations • Ne faire fonctionner ce matériel qu'avec la source d'alimentation indiquée sur l'appareil. Ce matériel doit être utilisé avec une alimentation principale comportant un fil de terre (neutre). Le troisième contact (de mise à la terre) constitue un dispositif de sécurité : n'essayez pas de la contourner ni de la désactiver.

Déconnexion de l'alimentation• Pour mettre le matériel hors tension sans danger, déconnectez tous les cordons d'alimentation de l'arrière de l'appareil ou du module d'alimentation de bureau (s'il est amovible) ou encore de la prise secteur.

Protection du cordon d'alimentation • Acheminer les cordons d'alimentation de manière à ce que personne ne risque de marcher dessus et à ce qu'ils ne soient pas écrasés ou pincés par des objets.

Réparation-maintenance • Faire exécuter toutes les interventions de réparation-maintenance par un technicien qualifié. Aucun des éléments internes ne peut être réparé par l'utilisateur. Afin d'éviter tout danger d'électrocution, l'utilisateur ne doit pas essayer de procéder lui-même à ces opérations car l'ouverture ou le retrait des couvercles risquent de l'exposer à de hautes tensions et autres dangers.

Fentes et orifices • Si le boîtier de l'appareil comporte des fentes ou des orifices, ceux-ci servent à empêcher les composants internes sensibles de surchauffer. Ces ouvertures ne doivent jamais être bloquées par des objets.

Sicherheitsanleitungen • Deutsch

Dieses Symbol soll dem Benutzer in der im Lieferumfang enthaltenen Dokumentation besonders wichtige Hinweise zur Bedienung und Wartung (Instandhaltung) geben.

Dieses Symbol soll den Benutzer darauf aufmerksam machen, daß im Inneren des Gehäuses dieses Produktes gefährliche Spannungen, die nicht isoliert sind und die einen elektrischen Schock verursachen können, herrschen.

Achtung

Lesen der Anleitungen • Bevor Sie das Gerät zum ersten Mal verwenden, sollten Sie alle Sicherheits-und Bedienungsanleitungen genau durchlesen und verstehen.

Aufbewahren der Anleitungen • Die Hinweise zur elektrischen Sicherheit des Produktes sollten Sie aufbewahren, damit Sie im Bedarfsfall darauf zurückgreifen können.

Befolgen der Warnhinweise • Befolgen Sie alle Warnhinweise und Anleitungen auf dem Gerät oder in der Benutzerdokumentation.

Keine Zusatzgeräte • Verwenden Sie keine Werkzeuge oder Zusatzgeräte, die nicht ausdrücklich vom Hersteller empfohlen wurden, da diese eine Gefahrenquelle darstellen können.

Vorsicht

Stromquellen • Dieses Gerät sollte nur über die auf dem Produkt angegebene Stromquelle betrieben werden. Dieses Gerät wurde für eine Verwendung mit einer Hauptstromleitung mit einem geerdeten (neutralen) Leiter konzipiert. Der dritte Kontakt ist für einen Erdanschluß, und stellt eine Sicherheitsfunktion dar. Diese sollte nicht umgangen oder außer Betrieb gesetzt werden.

Stromunterbrechung • Um das Gerät auf sichere Weise vom Netz zu trennen, sollten Sie alle Netzkabel aus der Rückseite des Gerätes, aus der externen Stomversorgung (falls dies möglich ist) oder aus der Wandsteckdose ziehen.

Schutz des Netzkabels • Netzkabel sollten stets so verlegt werden, daß sie nicht im Weg liegen und niemand darauf treten kann oder Objekte darauf- oder unmittelbar dagegengestellt werden können.

Wartung • Alle Wartungsmaßnahmen sollten nur von qualifiziertem Servicepersonal durchgeführt werden. Die internen Komponenten des Gerätes sind wartungsfrei. Zur Vermeidung eines elektrischen Schocks versuchen Sie in keinem Fall, dieses Gerät selbst öffnen, da beim Entfernen der Abdeckungen die Gefahr eines elektrischen Schlags und/oder andere Gefahren bestehen.

Schlitze und Öffnungen • Wenn das Gerät Schlitze oder Löcher im Gehäuse aufweist, dienen diese zur Vermeidung einer Überhitzung der empfindlichen Teile im Inneren. Diese Öffnungen dürfen niemals von anderen Objekten blockiert werden.

Instrucciones de seguridad • Español

Este símbolo se utiliza para advertir al usuario sobre instrucciones importantes de operación y mantenimiento (o cambio de partes) que se desean destacar en el contenido de la documentación suministrada con los equipos.

Este símbolo se utiliza para advertir al usuario sobre la presencia de elementos con voltaje peligroso sin protección aislante, que puedan encontrarse dentro de la caja o alojamiento del producto, y que puedan representar riesgo de electrocución.

Precaucion

Leer las instrucciones • Leer y analizar todas las instrucciones de operación y seguridad, antes de usar el equipo.

Conservar las instrucciones • Conservar las instrucciones de seguridad para futura consulta.

Obedecer las advertencias • Todas las advertencias e instrucciones marcadas en el equipo o en la documentación del usuario, deben ser obedecidas.

Evitar el uso de accesorios • No usar herramientas o accesorios que no sean especificamente recomendados por el fabricante, ya que podrian implicar riesgos.

Advertencia

Alimentación eléctrica • Este equipo debe conectarse únicamente a la fuente/tipo de alimentación eléctrica indicada en el mismo. La alimentación eléctrica de este equipo debe provenir de un sistema de distribución general con conductor neutro a tierra. La tercera pata (puesta a tierra) es una medida de seguridad, no puentearia ni eliminaria.

Desconexión de alimentación eléctrica • Para desconectar con seguridad la acometida de alimentación eléctrica al equipo, desenchufar todos los cables de alimentación en el panel trasero del equipo, o desenchufar el módulo de alimentación (si fuera independiente), o desenchufar el cable del receptáculo de la pared.

Protección del cables de alimentación • Los cables de alimentación eléctrica se deben instalar en lugares donde no sean pisados ni apretados por objetos que se puedan apoyar sobre ellos.

Reparaciones/mantenimiento • Solicitar siempre los servicios técnicos de personal calificado. En el interior no hay partes a las que el usuario deba acceder. Para evitar riesgo de electrocución, no intentar personalmente la reparación/mantenimiento de este equipo, ya que al abrir o extraer las tapas puede quedar expuesto a voltajes peligrosos u otros riesgos.

Ranuras y aberturas • Si el equipo posee ranuras o orificios en su caja/alojamiento, es para evitar el sobrecalientamiento de componentes internos sensibles. Estas aberturas nunca se deben obstruir con otros objetos.

安全须知 • 中文

这个符号提示用户该设备用户手册中有重要的操作和维护说明。

这个符号警告用户该设备机壳内有暴露的危险电压，有触电危险。

注意

阅读说明书 • 用户使用该设备前必须阅读并理解所有安全和使用说明。

保存说明书 • 用 户应保存安全说明书以备将来使用。

遵守警告 • 用户应遵守产品和用户指南上的所有安全和操作说明。

避免追加 • 不要使用该产品厂商没有推荐的工具或追加设备，以避免危险。

警告

电源 • 该设备只能使用产品上标明的电源。 设备必须使用有地线的供电系统供电。 第三条线（地线）是安全设施，不能不用或跳过 。

拔掉电源 • 为安全地从设备拔掉电源，请拔掉所有设备后或桌面电源的电源线，或任何接到市电系统的电源线。

电源线保护 • 妥善布线， 避免被踩踏，或重物挤压。

维护 • 所有维修必须由认证的维修人员进行。 设备内部没有用户可以更换的零件。为避免出现触电危险不要自己试图打开设备盖子维修该设备。

通风孔 • 有些设备机壳上有通风槽或孔，它们是用来防止机内敏感元件过热。 不要用任何东西挡住通风孔。

锂电池 • 不正确的更换电池会有爆炸的危险。必须使用与厂家推荐的相同或相近型号的电池。按照生产厂的建议处理废弃电池。

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. The Class A limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference; the user must correct the interference at his own expense.

NOTE: This unit was tested with shielded I/O cables on the peripheral devices. Shielded cables must be used to ensure compliance with FCC emissions limits.

For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the "**Extron Safety and Regulatory Compliance Guide"** on the Extron website.

Conventions Used in this Guide

Notifications

WARNING: A warning indicates a situation that has the potential to result in death or severe injury.

ATTENTION: Attention indicates a situation that may damage or destroy the product or associated equipment.

NOTE: A note draws attention to important information.

Specifications Availability

Product specifications are available on the Extron website, **www.extron.com**.

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Introduction

This section gives an overview of the user guide. This section also describes the MTP 15HD A Architectural Series of transmitters. Topics that are covered include:

- **About this Guide**
- **About the MTP Transmitters**

About this Guide

This guide contains installation, configuration, and operation information for the Extron MTP 15HD A Architectural Series of transmitters.

About the MTP Transmitters

The Extron MTP T 15HD A Architectural Twisted Pair Transmitters (available in either black or white) are a series of wall, Architectural Adapter Plate (AAP) or furniture mounting products that are based on the MTP T 15HD A Twisted Pair Transmitter.

The Extron MTP T 15HD A architectural transmitters accept high resolution computer-video on a female 15-pin HD connector and a stereo audio signal on a female 3.5 mm mini stereo jack. The female RJ-45 output connector, mounted on a 3 inch pigtail, transmits a computer video and summed mono audio signal to an MTP R 15HD A, MTP RL 15HD A, or MTP RL 15HD A SEQ receiver. A pre-peaking control switch boosts the transmission distance of the proprietary signal.

The MTP T 15HD A architectural series is part of a system for long-distance distribution of VGA or other high resolution video and audio, over Extron Enhanced Skew-Free™ AV UTP Cable, or any CAT 5, 5e, or 6 shielded twisted pair (STP), unshielded twisted pair (UTP), or foil shielded twisted pair (FTP) cable.

Twisted Pair Cable Advantages

Twisted pair cable is smaller, lighter, more flexible, and less expensive than coaxial cable. Termination of the cable with RJ-45 connectors is simple, quick, and economical. See "**Twisted Pair Cable Termination**" on page **13** for wiring details.

Transmission Distance

The maximum distance is determined by the frequency and resolution of the signal that is input to the transmitter.
See the **table** on page **2** for the recommended maximum transmission distances and transmitter Pre-Peak switch positions using Extron Enhanced Skew-Free AV UTP cable or UTP CAT 5 cable, terminated with CAT 5 rated connectors.

Video Format	Pre-Peak off	Pre-Peak on	Max. distance (high quality)	Max. distance (variable quality)
Composite, S-video, Component			800' (245 m)	1000' (300 m)
640 x 480	<300' (90 m)	>350' (105 m)	700' (215 m)	750' (240 m)
800 x 600	<300' (90 m)	>350' (105 m)	550' (165 m)	650' (200 m)
1024 x 768*	<300' (90 m)	>350' (105 m)	500' (150 m)	600' (185 m)
1280 x 960*	<300' (90 m)	>350' (105 m)	400' (120 m)	500' (150 m)
1280 x 1024*	<250' (75 m)	>300' (90 m)	350' (105 m)	450' (135 m)
1360 x 765	<250' (75 m)	>300' (90 m)	400' (120 m)	500' (150 m)
1365 x 768	<250' (75 m)	>300' (90 m)	400' (120 m)	450' (135 m)
1366 x 768	<250' (75 m)	>300' (90 m)	400' (120 m)	450' (135 m)
1400 x 1050	<250' (75 m)	>300' (90 m)	350' (105 m)	400' (120 m)
1440 x 900	<250' (75 m)	>300' (90 m)	350' (105 m)	400' (120 m)
1600 x 1200*	<250' (75 m)	>300' (90 m)	300' (90 m)	450' (135 m)
1920 x 1200	<250' (75 m)	>300' (90 m)	300' (90 m)	400' (120 m)
2048 x 1080	<250' (75 m)	>300' (90 m)	300' (90 m)	400' (120 m)
HDTV 720p	<250' (75 m)	>300' (90 m)	400' (120 m)	500' (150 m)
HDTV 1080i	<250' (75 m)	>300' (90 m)	300' (90 m)	400' (120 m)
HDTV 1080p	<250' (75 m)	>300' (90 m)	300' (90 m)	400' (120 m)

Figure 1. Recommended Pre-Peak Switch Positions and Transmission Distances at 60 Hz

NOTES:
- Resolutions marked with an asterisk (*) in the table above have the same range specifications at 75 Hz.
- It is possible to exceed the recommended distance; however, image quality may be reduced.

NOTES:

- The transmitters are for use with, and perform best with Extron Enhanced Skew-Free AV cable terminated in accordance with the TIA/EIA T 568 A wiring standard. CAT 5 cables are acceptable but less preferable. We also recommend the use of pre-terminated and tested cables. Cables terminated on site should be tested before use to ensure that they comply with Category 5 specifications.
- The recommendations shown in the table above apply for a single transmitter connected to a MTP receiver and for a daisy chain. For example, the maximum suggested range for 1024 x 768 video is 300 feet (90 m) with Pre-Peak off and 500 feet (150 m) with Pre-Peak on whether the system consists of one transmitter and one receiver or a transmitter and three daisy-chained receivers.

About the MTP T 15HD A WM

The MTP T 15HD A WM Twisted Pair Transmitter is a wall or furniture mountable version of the MTP T 15HD A, and can be mounted into any standard Underwriters Laboratories (UL) listed one-gang electrical wall box or by using the included mud ring.

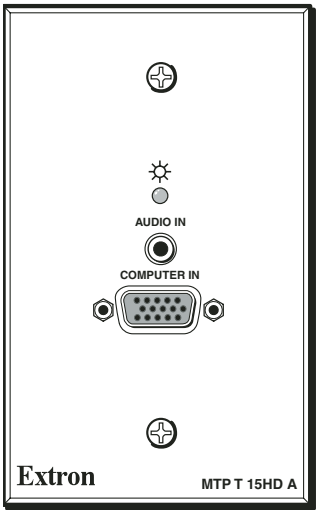


Figure 2. MTP T 15HD A WM Face

About the MTP T 15HD A D

The MTP T 15HD A D Twisted Pair Transmitter is a wall or furniture mountable version of the MTP T 15HD A that fits any Decora® style wall plate.

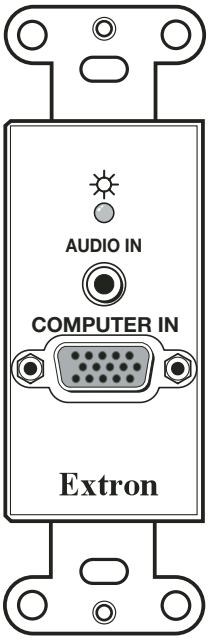


Figure 3. MTP T 15HD A D Face

About the MTP T 15HD A AAP

The MTP T 15HD A AAP Twisted Pair Transmitter can be mounted in any Extron product that accepts a double space AAP, such as the AAP 102.

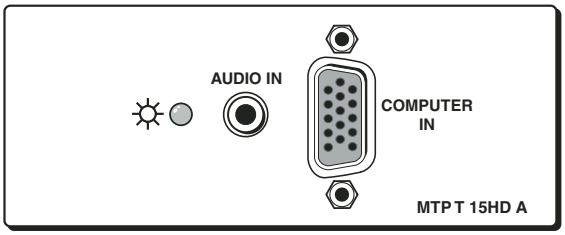


Figure 4. MTP T 15HD A AAP Face

Installation

This section provides information on:

- **Installing the MTP T 15HD A WM and MTP T 15HD A D**
- **Installing the MTP T 15HD A AAP**
- **Connections and Settings**
- **Twisted Pair Cable Termination**
- **EDID Minder Configuration**
- **Template**
- **Application Diagrams**

Installing the MTP T 15HD A WM and MTP T 15HD A D

The MTP T 15HD A WM and MTP T 15HD A D can be installed in a one-gang electrical wall box, with the MTP T 15HD A D fitting into a Decora wall plate cover (supplied). If a suitable wall box is already installed, follow steps **5** through **8** on the following page. To install a new wall box or to install using the included mud ring, follow all the steps below. Underwriters Laboratories (UL) listed wall boxes are recommended.

The installation must conform to national and local electrical codes and to the size requirements of the wall plate.

The following Underwriters Laboratories (UL) requirements pertain to the installation of the MTP T 15HD A architectural series into a wall or furniture.

1. These units are not to be connected to a centralized DC power source or used beyond their rated voltage range.
2. These units must be installed in UL listed junction boxes.
3. These units must be installed with conduit in accordance with the National Electrical Code.

Preparing the Site and Installing the Wall Box

Choose a location that allows cable runs without interference. Allow enough depth for both the wall box and the cables. The box should be at least 2.5 inches (6.4 cm) deep to accommodate the connectors and cables. Install the cables into the wall, furniture, or conduits before installing the wall plate.

1. If a wall box is not available to use for a template, use the dimensions from the **template** on page **15** or download a full size template online at **www.extron.com**. If installing directly into furniture, cut out the center portion of the template.
2. Place the template (or the wall box) against the installation surface, and mark the guidelines for the opening.
3. Cut out the material from the marked area.
4. Insert the wall box into the opening. The box or the rear connectors of the wall plate should fit easily into the opening. Enlarge or smooth the edges of the opening as needed.

5. With the power supply disconnected, feed cables for the output devices through the opening and through the wall box punch-out holes, securing them with cable clamps to provide strain relief.
6. Trim back, insulate, or do both to exposed cable shields with heat shrink to reduce the chance of short circuits.
    a. To prevent short circuits, the outer foil shield can be cut back to the point where the cable exits the cable clamp.
    b. Both braided and foil shields should be connected to an equipment ground at the other end of the cable.
7. Connect the output device cables to the rear of the MTP architectural wall plate. See "**Rear Panel Features**" starting on page **10** for connector wiring details.
8. Connect input devices (see "**Front Panel Features**" on page **9** for connector details), restore the power supply, and test the wall plate. Make any cabling adjustments before final installation as the cables will be inaccessible afterwards.

Installing into a Mud-Ring (WM Model)

1. Using the mud ring as a guide, mark the edges and cut out the material within the marked area.
2. Insert the mud ring into the opening, rotate the arms, and secure with the supplied screws.
3. Follow steps **5** through **8** of "**Preparing the Site and Installing the Wall Box**" above, and "**Final Installation**" on page **7**.

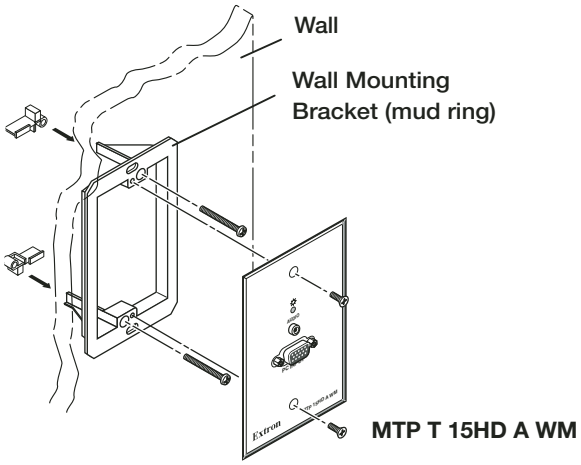


Figure 5. Mounting the MTP T 15HD A WM using the Mud Ring

Final Installation

After testing and making any adjustments, turn off the power supply and carefully insert the wall box into the opening or mud ring.
Attach it with nails or screws, leaving the front edge flush with the outer wall or furniture surface (see figure **5**).

NOTES:
- If attaching the wall box to wood, use four #8 or #10 screws or 10-penny nails. A minimum of 0.5 inches (1.3 cm) of screw thread must penetrate the wood.
- If attaching the wall box to metal studs or furniture, use four #8 or #10 self-tapping sheet metal screws or machine bolts with matching nuts.

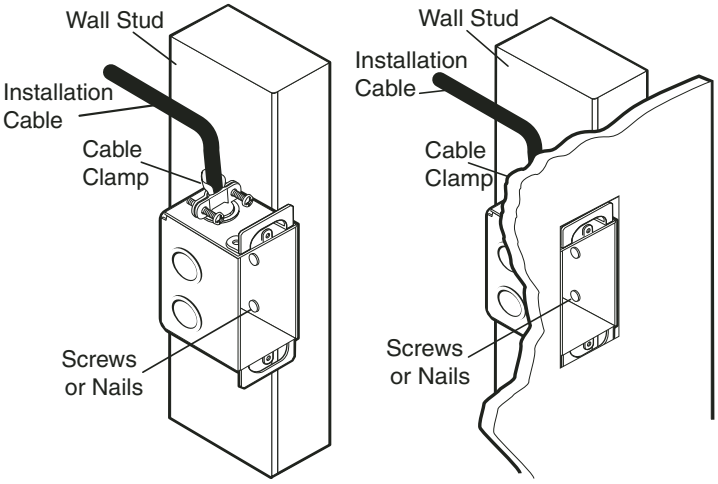


Figure 6. Installing the Wall Box

- If installing an MTP T 15HD A WM, mount the faceplate directly to the box or mud ring.
- If installing an MTP T 15HD A D, mount it directly to the wall box, then attach the Decora wall plate, as shown in figure **6**, and restore the power supply.

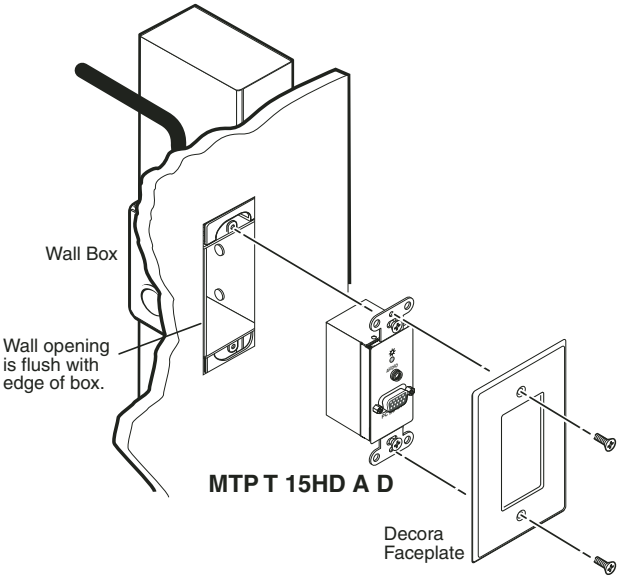


Figure 7. Mounting the MTP T 15HD A D

Installing the MTP T 15HD A AAP

The MTP T 15HD A AAP must be attached to a device faceplate or AAP wall plate and cabled before the device or wall plate is pretested or installed in a wall or furniture.

1. Before attaching any cables, insert the standoffs of the MTP T 15HD A AAP through the holes in the faceplate or AAP wall plate of the device.
2. Using the provided #4-40 nuts and captive washers, secure the line driver to the faceplate or wall plate.
3. Repeat steps **1** and **2** to mount any other AAPs. Cover any openings in the faceplate with blank plates (provided with the AAP faceplate).
4. Be sure to include the AAP connectors as part of the installation pretest before final installation of the faceplate.
5. For more detailed installation information, see the installation guide shipped with the device or AAP faceplate.

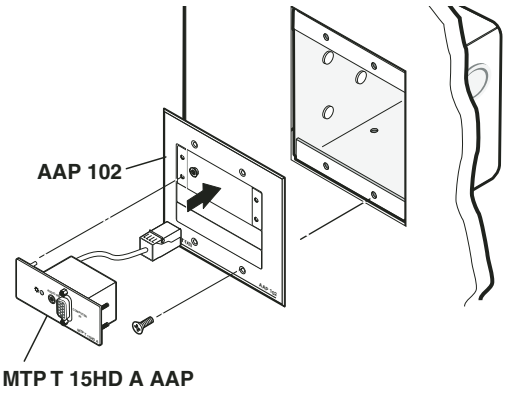


Figure 8. Mounting the MTP T 15HD A AAP

Connections and Settings

ATTENTION: **Potential damage to property.**
Do not connect these devices to a computer data or telecommunications network.

Front Panel Features

The front panel features are the same on all the MTP T 15HD A architectural models, as shown in figure **9**.

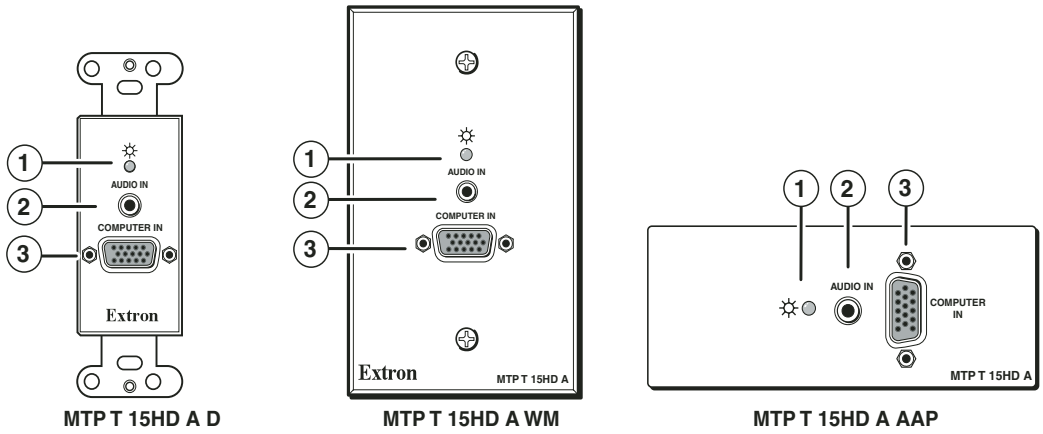
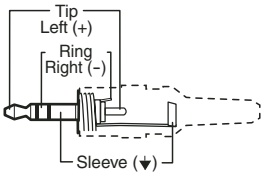


Figure 9. Architectural Series Front Panel Features

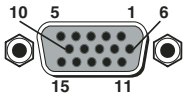
① **Power LED** — Indicates power is applied to the MTP.

② **Audio input connector** — Connect a 3.5 mm stereo audio plug into this jack for unbalanced audio input. Wire the plug as shown in figure to the right.



NOTE: The figure above shows a typical audio connector, which consists of the tip, ring, and sleeve. The tip, ring, and sleeve wires are also shown on the captive screw audio connector diagram (see **figure 11** on page **10**).

③ **Video input connector** — Connect a computer video source to this 15-pin HD connector for high resolution video input.



Female

NOTES:
- Input only sync signals (no video signals) on the sync pins (13 and 14).
- For component video, use the R (R-Y) and R return pins (pins 1 and 6), G (Y) and G return pins (pins 2 and 7), and B (B-Y) and B return pins (pins 3 and 8). For S-video, use the R, R return (C-chroma), G, and G return (Y-luma) pins.
- For composite video, use the G pin and the associated return pin. For additional genlocked video signals, use the R, B, and associated return pins.

Rear Panel Features

With the exceptions of ④, ⑤, and ⑥ on the MTP T 15HD A D, as noted in the figures and descriptions below, the rear panel features are the same on all the MTP T 15HD A architectural models.

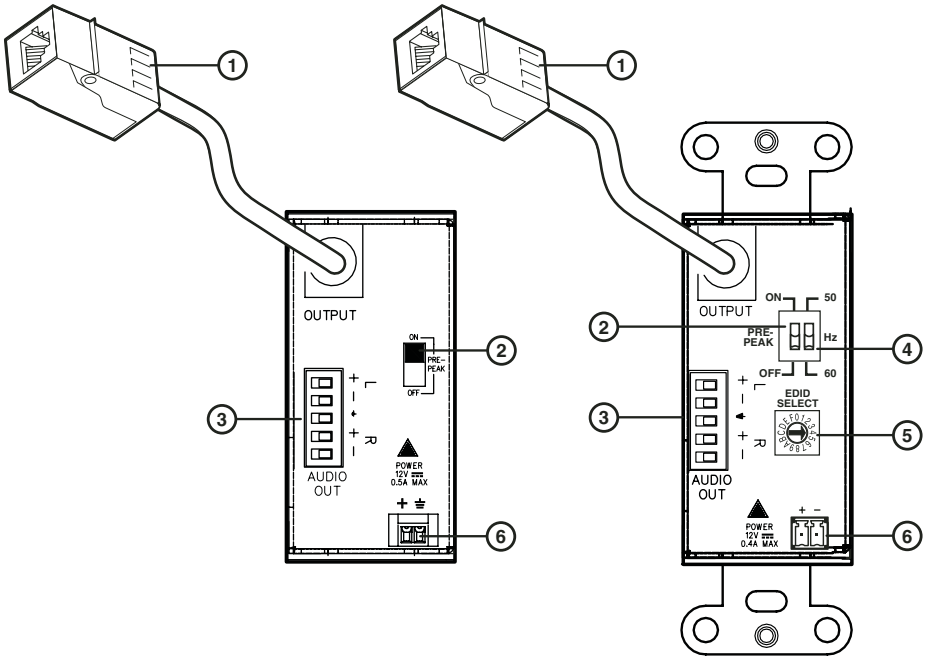
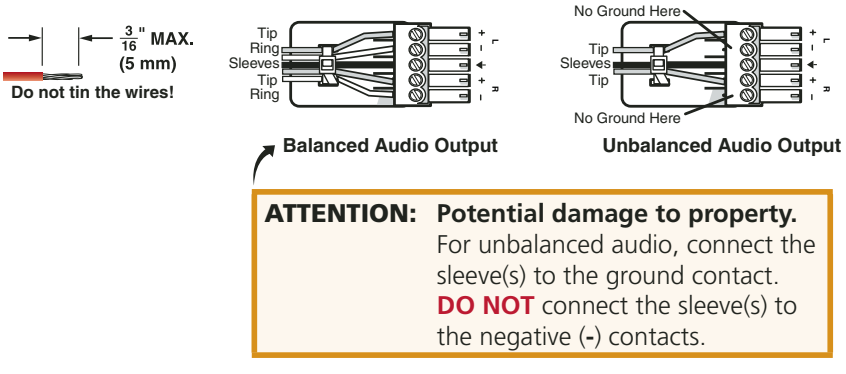


Figure 10. MTP T 15HD WM and AAP (Left) and MTP T 15HD A D (Right) Rear Panel Features

① **Output connector** — Connect one end of a twisted pair cable to this RJ-45 female connector on the transmitter. Connect the free end of the same twisted pair cable to the RJ-45 connector of the receiver. See "**Twisted Pair Cable Termination**" on page **13** to wire the RJ-45 connectors.

② **Pre-Peak switch** — The Pre-Peak DIP switch boosts the video signal output to correct for long cable runs. See the **table** on page **2** for suggested switch settings based on the transmitted video format and transmission distance.

③ **Stereo Audio output connector** — Insert bare wires into this direct insertion 3.5 mm, 5-pole captive screw audio connector for stereo audio outputs. Wire the connector as shown in figure **11**.



ATTENTION: Potential damage to property.
For unbalanced audio, connect the sleeve(s) to the ground contact. **DO NOT** connect the sleeve(s) to the negative (**-**) contacts.

Figure 11. Captive Screw Audio Connector Wiring

④ **Frequency Select switch** — The Frequency select DIP switch sets the vertical frequency of the factory-installed EDID. 50 Hz or 60 Hz can be selected.

⑤ **EDID Select rotary switch** — This 16 position rotary switch is used to select which factory-installed EDID information will be used. Position 0 is not used. Positions 1 through F correspond to the EDID information in the table in **figure 14** on page **14**.

⑥ **Power connector** — Connect the cables from the included external 12 VDC power supply to the rear panel 3.5 mm, 2-pole captive screw connector. See figure **12** for wiring instructions.

To verify the polarity before connection, plug in the power supply with no load and check the output with a voltmeter.

Figure **12** below shows how to wire the connector.

ATTENTION:
- **Potential damage to property.** Power supply voltage polarity is critical. Incorrect voltage polarity can damage the power supply and the transmitter or receiver. Identify the power cord negative lead by the ridges on the side of the cord.
- The length of the exposed (stripped) copper wires is important. The ideal length is 3/16 inches (5 mm). Longer bare wires can short together. Shorter wires are not as secure in the connector and could be pulled out.

To verify the polarity before connection, plug in the power supply with no load and check the output with a voltmeter.

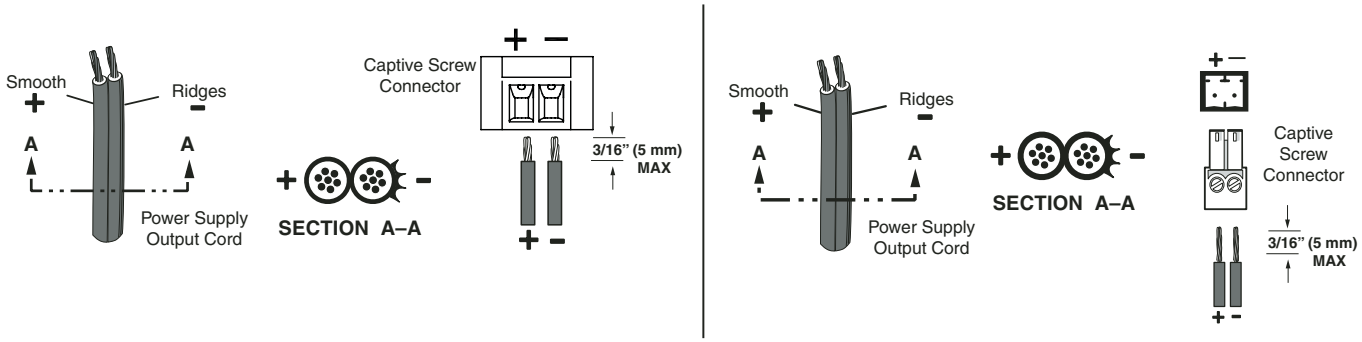


Figure 12. Power Connector Wiring for the MTP T 15HD WM and AAP (Left), and the MTP T 15HD A D (Right)

WARNING: **Failure to follow these instructions may result in serious injury.** The two power cord wires must be kept separate while the power supply is plugged in. Disconnect the power before wiring.

NOTES:
- Your transmitter/receiver pair may have shipped with a blue captive screw connector. This blue connector can be plugged into either a blue or an orange power receptacle. The blue connector does not have the extended tail or the included tie-wrap.
- Do not tin the power supply leads before installing in the direct insertion connector. Tinned wires are not as secure in the connectors and could be pulled out of the connector.

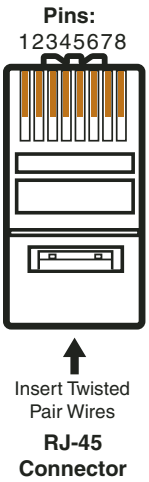
ATTENTION:

- **Potential damage to property.**
  This product is intended to be supplied by a Listed Power Unit marked "Class 2" or "LPS", rated 12 VDC, maximum 1.0 A. Always use a power supply supplied or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron AV processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium, or desk.
- The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 75, and the Canadian Electrical Code part 1, section 16. The power supply shall not be permanently fixed to building structure or similar structure.

Use the supplied tie wrap to strap the power cord to the extended tail of the connector. As an alternative, an Extron PS 124 Universal 12 VDC Power Supply (part number **60-1022-01**) can power multiple MTPs or other Extron 12 VDC devices using only one AC power connector.

Twisted Pair Cable Termination

Figure **13** details the recommended termination of twisted pair cables with RJ-45 connectors in accordance with the TIA/EIA T568A or TIA/EIA T568B wiring standards. You can use either standard with CAT 5, 5e, 6, 7, and STP201 cable, but ensure that you **use the same standard on both ends of the cable**.



Pin	TIA/EIA T 568 A Wire color	TIA/EIA T 568 B Wire color	Signal
1	White-green	White-orange	Red/V. sync +
2	Green	Orange	Red/V. sync -
3	White-orange	White-green	Mono audio +
4	Blue	Blue	Green +
5	White-blue	White-blue	Green -
6	Orange	Green	Mono audio -
7	White-brown	White-brown	Blue/H. sync +
8	Brown	Brown	Blue/H. sync -

NOTE: When using Enhanced Skew-Free™ AV UTP cable, use the TIA/EIA T568A standard only.

Figure 13. **Twisted Pair Cable Termination Diagram**

NOTES:

- RJ-45 termination with CAT 5, 5e, or 6 cable (**for non-C7 units only**) or STP201 or CAT 7 cable (for C7 units only) must comply with the TIA/EIA T568A or TIA/EIA T568B wiring standards for all connections.
- RJ-45 termination with Skew-Free AV UTP cable (**for non-C7 units only**) must comply with TIA/EIA T568A only.
- For proper grounding of **STP201 and CAT 7 cable only**, ensure the shield around each wire pair and the shield around the STP201 or CAT 7 cable are all tied to the RJ-45 connectors on both ends, in accordance with the connector specifications provided by the manufacturer.
- The audio data that is carried on wire pair 3 and 6 is incompatible with the Extron TPX 88 A, which cannot switch the audio, output it locally, or break it away.
- Extron Enhanced Skew-Free AV cable is **not recommended** for Ethernet/LAN applications. This cable is specially designed for compatibility with Extron Twisted Pair products that are wired using the TIA/EIA T568A standard.
- The green, brown, and blue wire pairs of this cable have virtually identical lengths and should be used to transmit the RGB signals.
- The orange wire pair of this cable has a different length and **should not** be used to transmit the RGB signals.

EDID Minder Configuration

The MTP T 15HD A D unit supports emulation of factory-installed EDID information through EDID Minder.

To use factory-installed EDID information:

1. If you have not already done so, connect the source device to the MTP 15HD transmitter. Do not power on the source device at this time.
2. Set the rear panel DIP switch (see ④ on **figure 10** on page **10**) to the required frequency (50 or 60 Hz).

> **NOTE:** When the rotary dial (see ⑤ on **figure 10** on page **10**) is set to position 0, the frequency DIP switch position is ignored.

3. Set the rotary dial (see ⑤ on **figure 10** on page **10**) to the required position and see the table below for specific EDID and its corresponding rotary switch position. Positions 1 through F are factory installed. Position 0 is not used.

Rotary Switch Position	Resolution
0	Not used
1	800x600
2	1024x768 (default)
3	1280x720
4	1280x768
5	1280x800
6	1280x1024
7	1360x768
8	1366x768
9	1400x1050
A	1400x900
B	1600x900
C	1600x1200
D	1680x1050
E	1920x1080
F	1920x1200

Figure 14. EDID Settings Table

Template

The cut-out template (see figure **15**) is used to install a MTP T 15 HD A WM or MTP T 15HD A D. Use the dimensions in the cut-out template as a guide for cutting a hole in a wall or furniture.

NOTES:
- The drawing is not full size or to scale. Do not scale up or print to use as a template.
- Full size templates are available online at **www.extron.com**

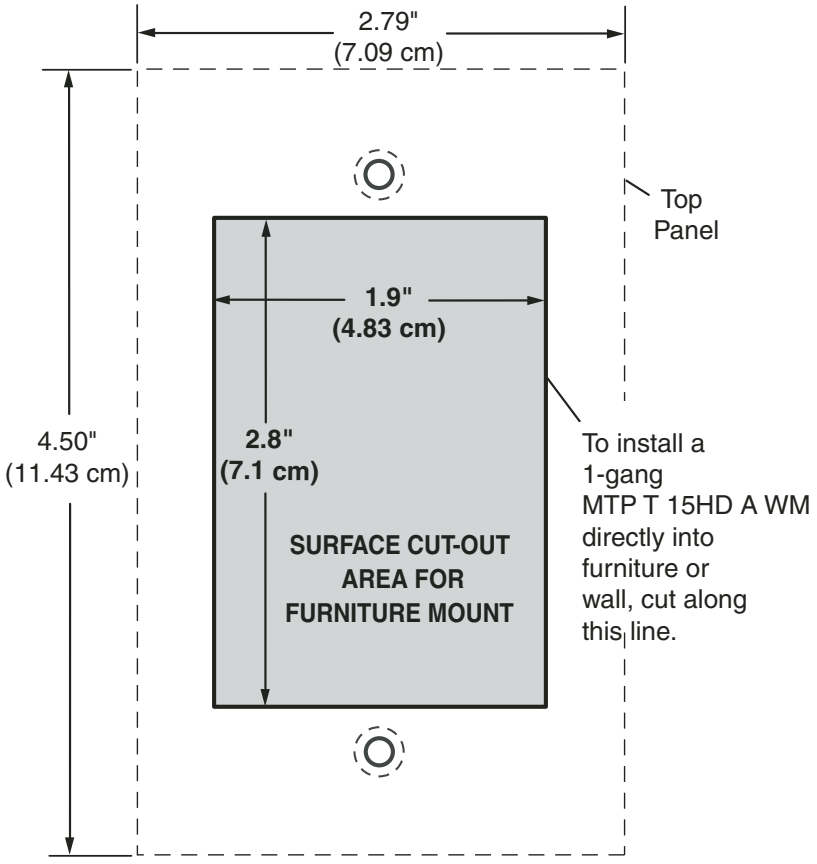


Figure 15. 1-gang Cut-out Template

Application Diagrams

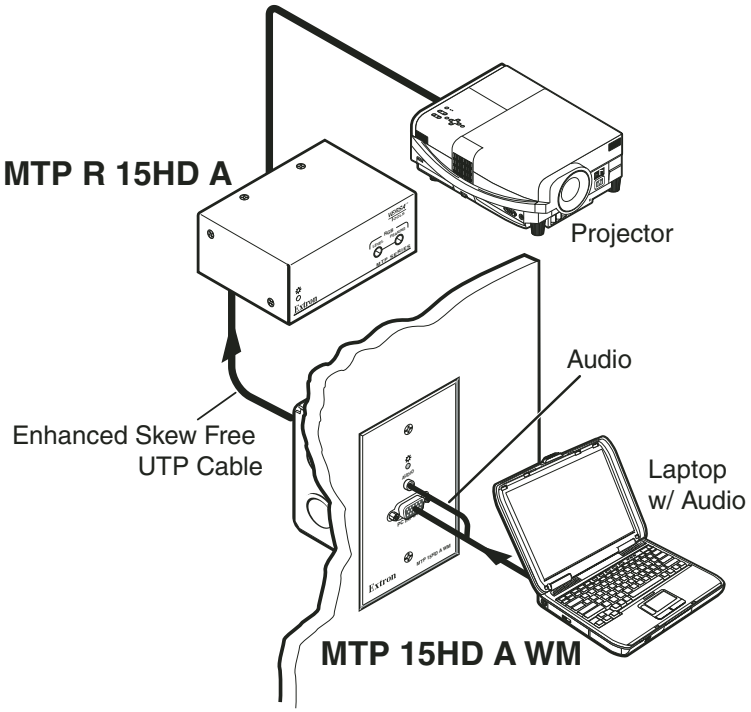


Figure 16. Typical MTP T 15HD A WM Application

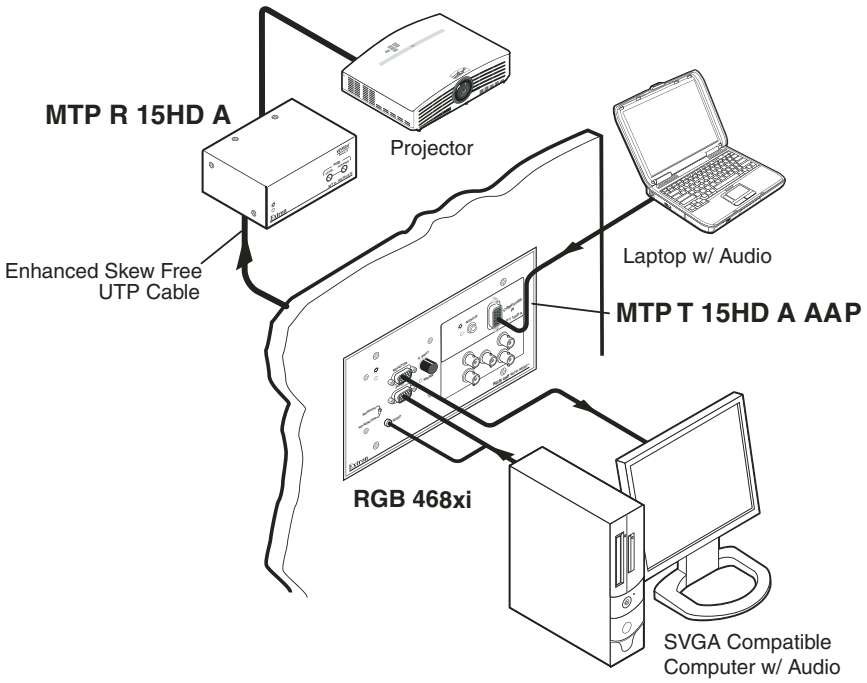


Figure 17. Typical MTP T 15HD A AAP Application

Reference Information

This section contains information regarding:

- **Part Numbers, Optional Accessories, Cables, Connectors**
- **Dimensions**

Part Numbers, Optional Accessories, Cables, and Connectors

Part Numbers

MTP Transmitters	Part Number
MTP T 15HD A WM, black, white	60-691-02, 03
MTP T 15HD A D, black, white	60-1283-02, 03
MTP T 15HD A AAP, black, white	70-558-02, 03

NOTE: Unless otherwise noted, these items are included in each order for an MTP T 15HD A architectural model.

Included Parts	Part Number
12 VDC, 1A external power supply	
IEC power cord	
Tweeker	
(1) Single gang Decora® wall plate (D model only)	
(1) MR 100 Mud Ring (WM models only)	70-519-1x
Setup Guide	

Optional Accessories

NOTE: All the accessories in the following table are for AAP models only.

AAP Accessories	Part Number
AAP 100 panel, black, white, RAL9010	60-593-02, 03, 05
AAP 102 panel, black, white	60-300-02, 03
AAP 104 panel, black, white, RAL9010	60-301-02, 03, 05
AAP 106 panel, black, white, gray	60-531-02, 03, 01

Cables

NOTES:
- Extron Enhanced Skew-Free AV UTP cables are not recommended for Ethernet or LAN applications.
- Extron Enhanced Skew-Free AV UTP cables are recommended for **non-C7 systems only**.
- STP201 or CAT 7 cables are recommended for **C7 systems only**.

Cables – various lengths	**Part Number**
VGA with audio cables - male to male	26-490-xx
*UTP23SF-4, non-plenum	26-569-xx
*UTP23SF-4P, plenum	26-570-xx
Cables – Bulk	
UTP23SF-4/1000, non-plenum	22-141-03
UTP23SF-4P/1000, plenum	22-142-03

NOTE: Enhanced Skew-Free™ AV UTP cables are not recommended for Ethernet/LAN applications.

Connectors

RJ-45 connector	**Part Number**
CAT 6 jack (black), qty. 10	100-476-01
CAT 6 jack (red), qty. 10	100-477-01
CAT 6 jack (blue), qty. 10	100-478-01
CAT 6 jack (orange), qty. 10	100-479-01
CAT 6 jack (gray), qty. 10	100-480-01
CAT 6 jack (white), qty. 10	100-481-01
CAT 6 jack (ivory), qty. 10	100-482-01

Dimensions

NOTE: The drawings in this section are not full size. Do not scale.

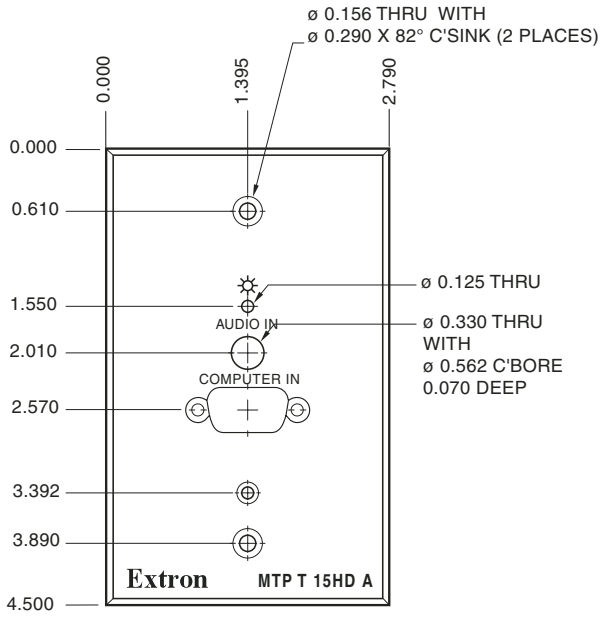


Figure 18. MTP T 15HD A WM

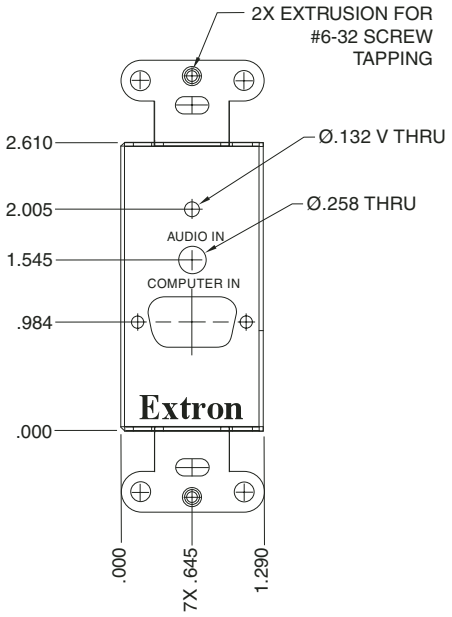


Figure 19. MTP T 15HD A D

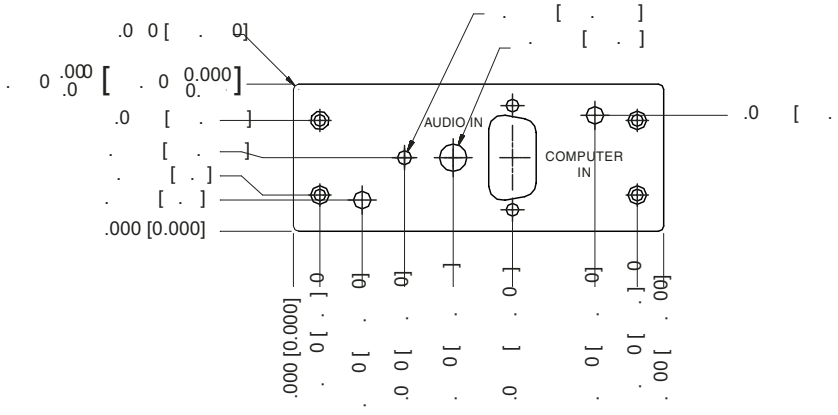


Figure 20. MTP T 15HD A AAP

Extron Warranty

Extron Electronics warrants this product against defects in materials and workmanship for a period of three years from the date of purchase. In the event of malfunction during the warranty period attributable directly to faulty workmanship and/or materials, Extron Electronics will, at its option, repair or replace said products or components, to whatever extent it shall deem necessary to restore said product to proper operating condition, provided that it is returned within the warranty period, with proof of purchase and description of malfunction to:

USA, Canada, South America, and Central America:
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Japan:
Extron Electronics, Japan
Kyodo Building, 16 Ichibancho
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This Limited Warranty does not apply if the fault has been caused by misuse, improper handling care, electrical or mechanical abuse, abnormal operating conditions, or if modifications were made to the product that were not authorized by Extron.

NOTE: If a product is defective, please call Extron and ask for an Application Engineer to receive an RA (Return Authorization) number. This will begin the repair process.

USA: 714.491.1500 **Europe**: 31.33.453.4040
Asia: 65.6383.4400 **Japan**: 81.3.3511.7655

Units must be returned insured, with shipping charges prepaid. If not insured, you assume the risk of loss or damage during shipment. Returned units must include the serial number and a description of the problem, as well as the name of the person to contact in case there are any questions.

Extron Electronics makes no further warranties either expressed or implied with respect to the product and its quality, performance, merchantability, or fitness for any particular use. In no event will Extron Electronics be liable for direct, indirect, or consequential damages resulting from any defect in this product even if Extron Electronics has been advised of such damage.

Please note that laws vary from state to state and country to country, and that some provisions of this warranty may not apply to you.

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